and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

***Amendments***

Please amend the application as follows:

***In the Claims:***

**(a)** Please cancel claims 1-6, 9-21, 23-34, 38, 39, 43-46, 55-68, 70-76, 101, 102 and 124-142 without prejudice to or disclaimer of the subject matter encompassed thereby. Applicants reserve the right to pursue the subject matter of these claims in one or more continuing and/or divisional applications.

**(b)** Please amend claims 7, 35, 40, 42, 69, 108 and 115 as follows:

Please substitute the following claim 7 for the currently pending claim 7:

7. (Once amended) A method of producing a population of hybrid nucleic acid molecules comprising:

(a) mixing at least a first population of nucleic acid molecules, wherein one or more nucleic acid molecules of said population comprises one or more recombination sites, with at least one target nucleic acid molecule comprising one or more recombination sites;

(b) causing some or all of the nucleic acid molecules of the at least first population to recombine with all or some of the target nucleic acid molecules, thereby forming the population of hybrid nucleic acid molecules; and

A' cont'd

(c) selecting for the population of hybrid nucleic acid molecules and against the first population of nucleic acid molecules and against the target nucleic acid molecules.

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Please substitute the following claim 35 for the currently pending claim 35:

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~~35.~~ 4 (Once amended) A method of cloning two or more nucleic acid segments, comprising:

(a) providing two or more nucleic acid segments, each segment flanked by two recombination sites which do not recombine with each other;

A2

(b) providing a vector comprising a number of recombination sites equal to twice the number of nucleic acid segments, wherein each of the recombination sites is capable of recombining with one of the recombination sites flanking one of the nucleic acid segments; and

(c) conducting a recombination reaction such that the nucleic acid segments are recombined into the vector thereby cloning the nucleic acid segments,

wherein transcription of at least two of the nucleic acid segments results in the production of a single RNA.

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Please substitute the following claim 40 for the currently pending claim 40:

~~40~~ 7. (Once amended) The method of claim ~~35~~ 4, wherein the nucleic acid segments comprise one or more libraries of nucleic acid molecules which encode variable domains of antibody molecules.

Please substitute the following claim 42 for the currently pending claim 42:

~~42~~ 9. (Once amended) The method of claim ~~35~~ 4, further comprising screening to identify nucleic acid molecules which encode proteins having binding specificity for one or more antigens.

Please substitute the following claim 69 for the currently pending claim 69:

~~69~~ 18. (Once amended) A method of joining two or more segments of nucleic acid, comprising:

(a) providing two or more segments of nucleic acid, each segment comprising at least one recombination site capable of recombining with a recombination site present on the other segment; and

(b) contacting the segments with one or more recombination proteins under conditions causing recombination between the recombination sites, thereby joining the segments,

wherein the expression product is a ribozyme or an inhibitory RNA molecule.

Please substitute the following claim 108 for the currently pending claim 108:

~~108~~ 48. (Once amended) A method of synthesizing a protein comprising:

(a) providing a nucleic acid molecule comprising at least one recombination site and comprising a coding sequence containing at least one suppressible stop codon;

A6

(b) providing a vector comprising at least one recombination site and a coding sequence;

(c) causing recombination *in vitro* such that the nucleic acid molecule is inserted into the vector to produce a modified vector with the two coding sequences connected in frame and separated by said stop codon;

(d) transforming a host cell which expresses a suppressor tRNA with the modified vector; and

(e) causing expression of the two coding sequences such that a fusion protein encoded by at least a portion of both of the coding sequences is produced.

Please substitute the following claim 115 for the currently pending claim 115:

A7

~~115~~ 55. (Once amended) A method for determining the gene expression profile in a cell or tissue comprising:

(a) generating at least one population of cDNA molecules from RNA obtained from the cell or tissue, wherein cDNA molecules of the

population comprise at least one recombination site capable of recombining with at least one recombination site present on cDNA molecules of the same or a different population;

(b) contacting the nucleic acid molecules of (a) with one or more recombination proteins under conditions which cause the nucleic acid molecules to join;

a7 cancel

(c) determining the sequence of the joined nucleic acid molecules; and

(d) comparing the sequence of said joined nucleic acid molecules to nucleic acid sequences cataloged in public databases to identify the gene expression profile.

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**(c)** Please enter the following new claims 143-150:

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64
~~143~~. (New) The method of claim ~~7~~ 1, wherein said recombination between the one or more recombination sites of the members of said at least first population and the one or more recombination sites of the at least one target nucleic acid molecule occurs *in vitro*.

a8

65 60
~~144~~. (New) The method of claim ~~120~~, wherein said recombination between the at least one recombination site of the first population to create a second population occurs *in vitro*.

66
~~145~~. (New) A method of producing a nucleic acid molecule comprising:



a

(a) providing a first nucleic acid molecule comprising at least one recombination site and comprising a coding sequence containing at least one suppressible stop codon;

(b) providing a second nucleic acid molecule comprising at least one recombination site and a coding sequence; and

(c) causing recombination *in vitro* such that the first nucleic acid molecule is joined to the second nucleic acid molecule to produce a third nucleic acid molecule in which the two coding sequences are connected in frame and are separated by said stop codon.

67 66
~~146.~~ (New) The method of claim ~~145~~, wherein said first nucleic acid molecule and/or said second nucleic acid molecule and/or third nucleic acid molecule is a vector.

68 66
~~147.~~ (New) The method of claim ~~145~~, further comprising:

(d) transforming a host cell which expresses a suppressor tRNA with the third nucleic acid molecule.

69 66
~~148.~~ (New) The method of claim ~~145~~, wherein the stop codon is selected from the group consisting of amber, opal and ochre codons.

70 66
~~149.~~ The method of claim ~~145~~, wherein said first and/or second nucleic acid molecule comprises a gene which encodes at least one suppressor tRNA molecule.

~~150~~ 71. The method of claim ~~147~~ 68, wherein the chromosome of the host cell comprises a gene which encodes at least one suppressor tRNA molecule.

68 cont'd



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